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## WHO PAYS?

### Out-of-Pocket Health Spending and Equity Implications in the Middle East and North Africa

Heba Elgazzar, Firas Raad, Chokri Arfa, Awad Mataria, Nisreen Salli, Jad Chaaban, Djavad Salehi-Isfahani, Sanaz Fesharaki and Mehdi Majbouri

November 2010





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Mehdi Majbouri**

**November, 2010**

## Health, Nutrition and Population (HNP) Discussion Paper

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## Who Pays?

### Out-of-pocket health spending and equity implications in the Middle East and North Africa

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**Abstract:** Ensuring affordable, effective health care and financial protection against the adverse effects of household out-of-pocket (OOP) health expenditures represents an important policy objective in most countries, yet relatively little evidence exists regarding patterns and implications of household health expenditures in the Middle East and North Africa (MENA) region. This paper examines the scope of out-of-pocket expenditures and their implications on living standards and policy reforms in six MENA countries including Yemen, the West Bank and Gaza, Egypt, Iran, Tunisia, and Lebanon. Results show that OOP payments represent a relatively high share of total national health care financing at 49 percent on average in the MENA region as of 2006. Households pay an average of 6 percent of their total household expenditure on health. Most of this OOP is spent on medications, doctor visits and diagnostic services. Lower-income and rural households generally face greater financial risk; yet this is reversed where private health services are utilized and paid for more frequently by higher-income groups. 7 to 13 percent of households face particularly high OOP payments, or catastrophic expenditures equal to at least 10 percent of household spending. Poverty rates tend to increase by up to 20 percent after health care spending is accounted for. Results are discussed in light of ongoing policy efforts to strengthen social protection for health care.

**Keywords:** health financing, out-of-pocket spending on health, equity, health insurance, social protection

**Disclaimer:** The findings, interpretations and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

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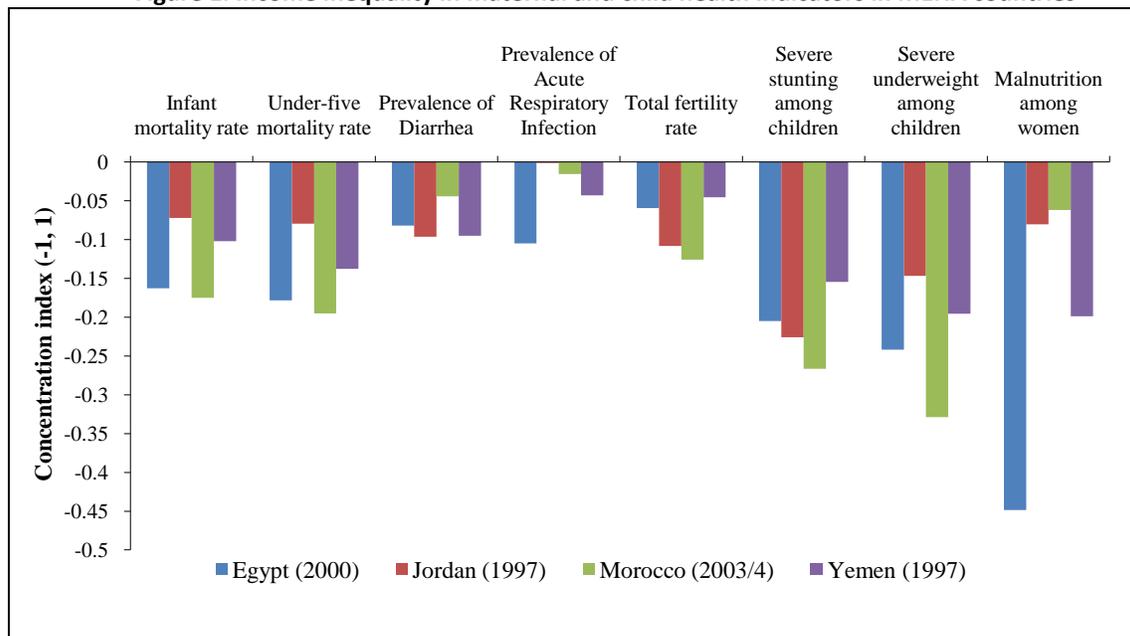
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## I. Introduction: The Relationship between Out-of-Pocket Health Spending and Equity in MENA

In many countries, direct household spending on health care can account for the single largest component of household spending after food expenditures. The impact of out-of-pocket payments for health care can become catastrophic over time and can significantly affect the living standards of individuals. Out-of-pocket spending on health care has become a policy concern for three reasons: First, households may be pushed into poverty or into deeper poverty as a result of paying directly for health services. Second, households facing these health expenses may cut back on other essential household spending such as food and clothing. Third, households may, in fact, choose to forgo necessary health care services rather than face the steep financial consequences - creating a vicious cycle of ill health, disability, and poverty. Previous assessments in Egypt<sup>1</sup>, Jordan<sup>2</sup>, Iran<sup>3</sup>, Lebanon<sup>4</sup> and other countries suggest that socioeconomic inequities exist in health status and the use of health care services. A comparison of maternal and child health disparities in MENA is presented in Figure 1<sup>5</sup>. However, to date there has been little evidence in the Middle East and North Africa (MENA) on the level and distribution of household out-of-pocket payments for health care, and to what extent household expenditures on health care affect living standards.

**Figure 1. Income inequality in maternal and child health indicators in MENA countries**



Source: Demographic and Health Surveys, Gwatkin et al, 2008<sup>5</sup>. Notes: IMR = infant mortality rate; U5MR = under-five mortality rate. \*'Concentration index' denotes degree of inequality across socio-economic status; a positive index indicates a pro-rich distribution, where the value of the indicator increases as income increases; a negative value indicates the reverse.

The adverse consequences of ill health and inadequate social protection have prompted many countries to examine the consequences on households of paying for health care and to expand and enhance health insurance coverage. In many countries, subsidized and nominal ‘coverage’ is extended to the general population through access to the subsidized public sector health care system. The problem, however, is that these public sector systems, at times, do not fully command the confidence of individuals, prompting them to opt out of this public coverage; and self-pay directly for needed health care services. This policy issue has encouraged countries to experiment with ways to improve the quality of their subsidized health services and to develop ways to better target the less well-off individuals in society.

In recent years, rising global interest in the area of health equity has spawned numerous international research and policy initiatives. These initiatives have largely focused on measuring and explaining inequalities in health status outcomes (infant mortality or maternal mortality), health service use (antenatal care visit), and public subsidies supporting health service utilization. Policy initiatives have sought to alleviate disparities by addressing modifiable factors through organizational, economic and/or regulatory reforms. Another focal area of health equity research has revolved around the progressivity of health care payments and the catastrophic and impoverishing impact of these payments on individual households. A number of global<sup>6</sup> as well as regional evaluations in Europe<sup>7</sup>, Asia<sup>8</sup> and Latin America<sup>9</sup> have highlighted the variations in household payments for health care and their implications, shedding light on the international focus afforded to the issue of financial protection in health care.

This paper presents new evidence on the patterns and effects of out-of-pocket health payments on households in selected MENA countries and assesses options for alleviating financial burdens associated with utilizing health services in the MENA region. The paper examines the scope of OOP expenditures and the implications on living standards in six MENA countries representing various per capita income levels and approximately 55 percent of the overall population of nearly 300 million in MENA.

### ***Methods***

The methods employed are described in detail in the Annex, including a complete list of data sources used for the analysis. Quantitative analyses were conducted using data from representative household surveys from Yemen, West Bank and Gaza, Egypt, Iran, Tunisia, and Lebanon.

The paper is structured as follows. Section 1 assesses the extent of OOP payments as a percentage of total national health spending in MENA countries and as a percentage of monthly household spending. Section 2 extends this analysis by presenting the distribution of payments across socioeconomic status, by health care service and by insurance status. Section 3 examines the incidence and intensity of those health payments that are catastrophic. Section 4 evaluates the impoverishing effect of out-of-pocket payments. The final section concludes with key policy implications aimed at strengthening financial protection for health care in the MENA region.

## II. The Reliance on Out-of-Pocket Health Financing in MENA

In light of the epidemiologic and economic transition occurring in most Middle Eastern and North African nations as elsewhere, policy-makers, practitioners, and citizens face a number of policy questions regarding safety nets for health care, such as:

- Are health systems in MENA prepared to protect their populations, particularly the most vulnerable, from potentially catastrophic costs of health care?
- Which policy options for health care financing offer the greatest promise for expanding coverage whilst maintaining sustainability?
- Which other supply- and demand-side policies are expected to alleviate household financial burdens related to health care?

This paper evaluates the first question and sheds light on the broader policy implications highlighted in the second two by examining the experience to date in MENA. Despite the existence of public services designed to be almost free at the point of use in most MENA countries, most citizens pay relatively high costs to access health care services. The 2009 World Development Report<sup>10</sup> highlights the negative implications of a lack of sound financial protection policies and a lack of access to basic services such as health care on vulnerable groups and the socioeconomic and geographic disparities that result. By having to pay out-of-pocket for services, households may face the choice of delaying or forgoing care in the face of user fees, which can accumulate and pose as a challenge to living standards. Indeed, evidence from Vietnam<sup>11</sup> and other countries shows that pharmaceutical expenditures and fees for routine doctor visits add up quickly to impinge on household disposable income.

The nature of health systems varies somewhat across the MENA region in terms of health financing, but most share similarities with regards to the provision, organization and regulation of health services. Generally, the public sector accounts for a substantial proportion of the provision of services in a centralized system managed directly by the Ministry of Health, although the recent two decades have witnessed the growth of the private sector in the areas of pharmaceutical and physician consultations. The exception is Lebanon, where most health care is provided through the private sector. Whilst health care professionals are salaried, civil servants in the public sector, a substantial number of physicians also operate private clinics where remuneration is on a fee-for-service basis financed either through direct user fees or, on a limited scale, reimbursement from social health insurance schemes. In some countries, notably Jordan, Egypt and Tunisia, the state has greater institutional capacities to regulate the quality and availability of health services than in others, notably Yemen, Morocco and Lebanon, yet most of the countries do not currently have effective systems of accountability with respect to service delivery performance. The relatively low level accountability has likely contributed to the problems regarding health financing as well.

As revealed in Table 1 below, over half of the amount that MENA countries spend on health care comes from out-of-pocket fees in most MENA countries, followed either by general government revenues or social health insurance schemes, depending on the country. OOP health expenditures account for approximately 49 percent of total health

financing in the MENA region as a whole, ranging from 4 percent in Saudi Arabia to 59 percent in Egypt in 2006. On balance the GCC countries spend less out-of-pocket on health services than the remaining MENA countries. Saudi Arabia aside, Oman spends 10 percent and the UAE 22 percent out-of-pocket as a percentage of total health expenditures compared to Jordan, Syria and Tunisia, for example, which all spend more than 40 percent out-of-pocket for health care. It is noteworthy, too, that Yemen, one of the poorest countries in MENA, has the second highest percentage (55 percent of total health spending is out-of-pocket) following Egypt. Table 1 also reveals that although the proportion of national health expenditures that is private is similar between MENA (51%) and other regions, out-of-pocket payments make up a larger share of that private spending in MENA (at 90%) than they do in other regions.

**Table 1. National health expenditures in MENA countries, 2006**

Country	Health expenditure, private (% of GDP)	Health expenditure, public (% of GDP)	Health expenditure, public (% of total health expenditure)	Health expenditure, total (% of GDP)	Out-of-pocket health expenditure (% of private expenditure on health)
Algeria	0.8	3.4	81.1	4.2	94.6
Bahrain	1.1	2.5	68.2	3.6	68.0
Djibouti	1.8	5.0	74.1	6.8	98.6
Egypt, Arab Rep.	3.7	2.6	41.4	6.3	94.9
Iran, Islamic Rep.	3.4	3.4	50.7	6.8	94.8
Iraq	0.8	2.7	78.1	3.5	100.0
Israel	3.5	4.5	56.0	8.0	75.3
Jordan	5.5	4.2	43.3	9.7	75.9
Kuwait	0.5	1.7	78.2	2.2	91.6
Lebanon	4.9	3.9	44.3	8.8	76.1
Libya	0.8	1.6	66.3	2.4	100.0
Malta	1.9	6.5	77.0	8.4	90.4
Morocco	3.9	1.4	26.2	5.3	77.3
Oman	0.4	1.9	82.3	2.3	57.7
Qatar	0.9	3.4	78.2	4.3	88.2
Saudi Arabia	0.8	2.5	77.0	3.3	13.4
Syrian Arab Republic	2.0	1.9	47.8	3.9	100.0
Tunisia	2.8	2.3	44.2	5.1	81.7
United Arab Emirates	0.7	1.8	70.4	2.5	69.4
West Bank and Gaza	..	..	..	..	..
Yemen, Rep.	2.4	2.1	46.0	4.5	95.2
East Asia & Pacific	2.5	1.8	42.1	4.3	82.1
Europe & Central Asia	1.8	3.6	66.2	5.5	85.6
Euro area	2.3	7.5	76.9	9.8	60.0
Latin America & Caribbean	3.5	3.4	50.0	7.0	72.2
Middle East & North Africa	2.8	2.8	51.3	5.7	90.5
South Asia	2.6	0.9	25.8	3.5	91.4
Sub-Saharan Africa	3.4	2.4	41.6	5.7	46.8
Croatia	1.1	7.1	86.1	8.2	92.2
Turkey	1.3	3.5	72.5	4.8	84.2
Costa Rica	2.4	5.3	68.4	7.7	86.7

Source: World Development Indicators, World Bank, Accessed 5 June 2009. Data reflect 2006 values.

Table 2 provides comparative information on coverage levels for seven low to middle income countries. In all countries, nominal coverage levels are relatively high, whether through subsidized government services or through social security schemes. In Libya, Yemen and Egypt, 100 percent of the population is reportedly eligible to use subsidized government services. In Lebanon, Iran and Tunisia, coverage through social security ranges from 52 to 78 percent of the population. Despite these health insurance coverage schemes, OOP health payments in MENA countries are relatively high, indicating a possible shortage of confidence in the quality of the ‘covered’ services and/or problems related to service availability and access.

**Table 2. Coverage rates by health financing scheme in MENA, 2008**

Country	Est. % of population enrolled in social health insurance	Est. % of population enrolled in private health insurance	Est. % uninsured	Est. % of population entitled to subsidized/free governmental health services or insurance
Yemen	n/a	n/a	n/a	100.0
Libya	n/a	n/a	n/a	100.0
Lebanon	52.0	15.0	>48	23
Iran	69.3	n/a	30.7	67.0
Egypt	45.0	<1	55.0	100.0
West Bank-Gaza	48.5	10.2*	22.4	18.9**
Tunisia	78.0	n/a	14.8	7.2

Sources: Yemen, Ministry of Health, 2007; Libya, Ministry of Health, 2008; Lebanon, Ministry of Finance/Ministry of Health Annual Report; Lebanon, percent receiving Ministry of Health-funded treatment, Ammar, 2003<sup>12</sup>; Iran, Household Expenditure Survey, 2006; Egypt, Ministry of Finance/World Bank, Health Policy Note, Public Expenditure Review 2007; Tunisia, Ministry of Health; West Bank-Gaza, Ministry of Health/World Bank Health Policy Note, 2009. \*Includes military, private and Israeli insurance schemes. \*\*Covered by United Nations Relief and Works Agency.

Attempting to expand health insurance coverage to larger segments of the population is fraught with technical and political challenges, although experience from Iran exemplifies the potential to create schemes that can effectively reach the most vulnerable groups in society. Over the decade between 1996 and 2006, the proportion of households in rural areas that report being covered by health insurance has increased nearly three-fold, from 28.5 percent in 1996 to 76.2 percent in 2006, as shown in Table 3 below. In urban areas, the proportion of households with health insurance has remained unchanged at 61.1 percent during the same period. The sharpest increase in health insurance coverage in rural areas occurred during the period 2001-2006, when the coverage rate increased by 2.3 times (33.3 percent to 76.3 percent of households), as compared to 1996-2001 when the coverage rate increased by only 1.2 times (from 28.5 percent to 33.3 percent of households).

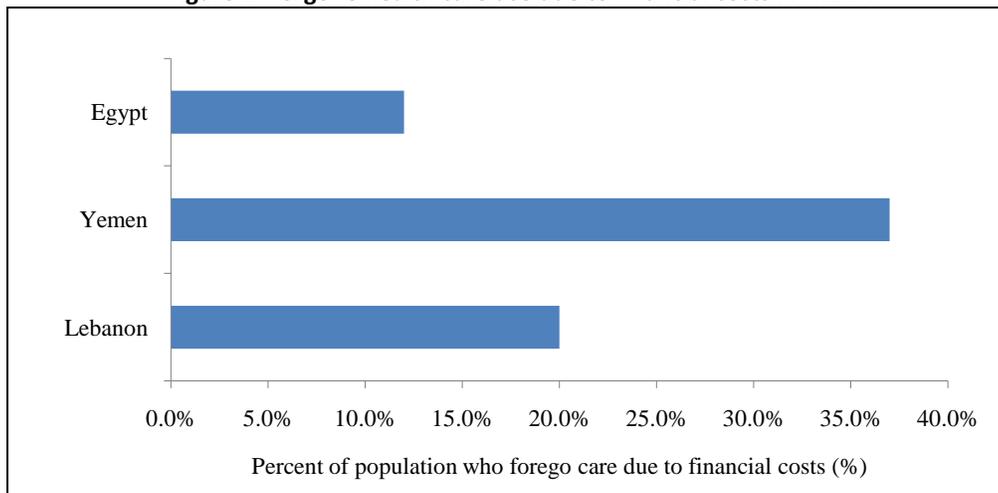
**Table 3. Spatial distribution of health insurance coverage over time in Iran, 1996-2006**

	Proportion of households enrolled in health insurance (%)	
	Rural	Urban
1996	28.46	61.12
2001	33.29	60.91
2006	76.24	61.18

Source: Iran, Household Expenditure Survey, 1996-2006.

Despite the existence of health insurance schemes that ought to reduce the costs paid by beneficiaries, individuals in MENA countries appear to face economic barriers in seeking health care. According to national household survey data, a substantial proportion of citizens in MENA countries report forgoing necessary health care services because of the expected financial costs. In Yemen, approximately 37 percent of respondents have reported not seeking health care due to financial barriers, as compared to 20 percent in Lebanon and 12 percent in Egypt, as shown below in Figure 2.

**Figure 2. Forgone health care use due to financial costs in MENA**



Source: Yemen, Household Budget Survey 2005/6; Lebanon, Multi-Country Survey Study, World Health Organization, 2001; Egypt, Multi-Country Survey Study, World Health Organization, 2001.

Yet too often citizens in MENA face the choice of immediate versus delayed costs when it comes to health care. Surveys reveal that many choose to carry the financial burden immediately rather than risk greater welfare costs in the future. The fact that citizens of varying socioeconomic levels are willing to pay for health care services does not necessarily mean they can afford these payments. In Morocco, amongst citizens who paid for health services in 2001, approximately 60 percent reported having had to borrow or sell assets to do so, as compared to 35 percent in Tunisia. The difference in the proportion that report having to borrow or sell assets partly reflects differences in the availability and eligibility of health care coverage from country to country, and between different regions or socioeconomic groups in a given country.

In MENA, health care expenses often comprise the single largest component of household expenditure after food. In nine MENA countries surveyed as depicted in

Table 4 below, households reported spending between 3 percent and 7 percent of their total consumption expenditure on health care-related services. Data by geographic status show that out-of-pocket payments reveal further differences across countries. In Yemen and Tunisia, households in urban and rural areas appear to pay similar proportions of their expenditure on health care on average. In Iran, Lebanon and Egypt, wide gaps exist; healthcare accounts for a greater proportion of household spending in urban areas than in rural areas.

**Table 4. Average out-of-pocket spending on health care in MENA countries**

Country	GDP per capita, 2006 (current US \$)	OOP as % THE (%)	Average OOP as % HH Income (%)		
			Total	Urban	Rural
Yemen	882	58	2.7	2.8	2.5
Lebanon	6,060	75	6.6	n/a	n/a
Iran	3,152	44	5.1	4.9	6.1
Egypt	1,489	62	8.9	9.2	8.5
West Bank-Gaza	1,187	40	3.1	3.3	3.2
Tunisia	3,072	56	4.6	4.4	4.8

Sources: GDP data: Current international dollar; World Economic Outlook, April 2009 Database, International Monetary Fund; West Bank-Gaza based on IMF West Bank-Gaza Staff Report February 25, 2009. Consumption and OOP expenditure: Authors' calculations based on household survey data described in the Annex, with the exception of: Egypt figures based on HIECS 2004/5 for total expenditure and HIS 2006 for OOP; urban and rural figures approximated; West Bank-Gaza, Palestinian Consumption and Expenditure Survey, Palestinian Central Bureau of Statistics, 2006; OOP as % THE based on West Bank-Gaza Health Policy Note, World Bank, 2009. Notes: GDP = Gross domestic product, purchasing power parity exchange rate. OOP = out-of-pocket expenditures on health care. THE = total health expenditures at country level. HH = household.

***Main messages: Nearly half of all health financing in MENA comes from private household spending, suggesting that access to health care is substantively based on ability to pay.***

1. Despite the existence of governmental financing and health insurance, out-of-pocket spending has been rising in most countries.
2. Between 10-35 percent of households in countries surveyed report having to forego necessary health care due to costs or up to 60 percent have had to borrow or sell assets to access care.
3. In MENA, health care expenses often comprise the single largest component of household expenditure after food, suggesting that as health care costs rise, better social protection and availability of affordable, effective health services will need to be ensured.

### III. The Distribution of OOP Health Spending

Similarly, socioeconomic differences in out-of-pocket spending appear larger in some countries than in others. Recent data reveal that in most of the countries surveyed, the amount spent by households tends to increase as income levels increase, with the richest quintiles spending nearly double that of the poorest on health care. These trends are revealed below in Table 5. However, in terms of the equity of these expenditures as indicated in the last column using the Kakwani index<sup>39</sup>, all of the MENA countries exhibit relatively *regressive* OOP trends. The burden of out-of-pocket payments falls disproportionately higher on lower-income households. In some countries, health care expenditure abroad may not be fully accounted for in national data. In Yemen and Libya, citizens have reported having had to travel abroad for health care services due to the lack of availability or satisfaction with local services. Treatment abroad, for example, in Yemen accounts for approximately one-third of all out-of-pocket spending, although this is reported amongst the top three income categories.

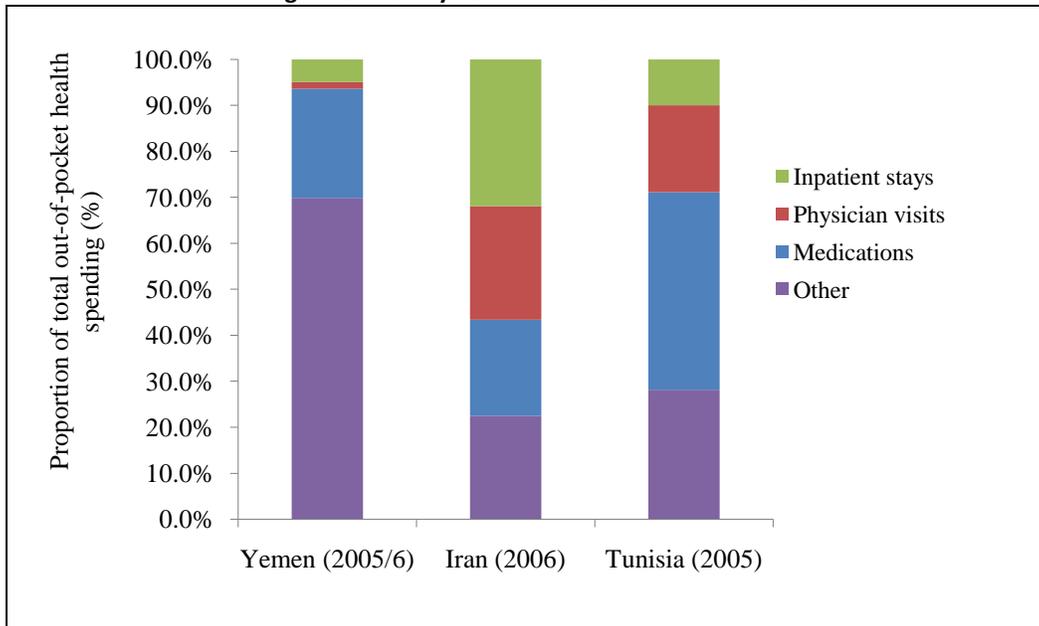
**Table 5. Distribution of out-of-pocket health care spending (OOP) across socioeconomic status**

Country	Proportion of total household expenditure spent on health care across income quintile (%)						Concentration Index	Kakwani Index of Progressivity
	Poorest	2 <sup>nd</sup>	Middle	2 <sup>nd</sup>	Richest	Total		
	Poorest	Poorest		Richest				
Yemen	1.7	1.8	2.2	2.5	3.7	2.7	0.1970	-0.1830
Lebanon	4.8	6.3	6.5	7.5	8.2	6.6	0.0960	-0.2640
Iran	4.3	4.2	4.1	4.2	5.9	5.1	0.0569	-0.3231
Egypt	5.2	3.1	4.4	3.7	1.0	3.4	-0.1888	-0.5088
West Bank-Gaza	3.0	2.9	3.1	2.9	3.5	3.1	0.0162	-0.6238
Tunisia	4.0	4.3	4.4	4.7	5.1	4.5	0.0346	-0.3754

Source: Country survey data. Note: Egypt calculations based on data from pilot program survey in four governorates listed in Annex, used to examine policies at exempting poorer households from user fees. West Bank-Gaza calculations based on Palestinian Consumption and Expenditure Survey, Palestinian Central Bureau of Statistics, 2006.

The distribution of out-of-pocket spending reveals that spending patterns vary across countries. In Tunisia and Yemen, the single largest component of household health care expenditures is medications, followed by physician visits and finally inpatient care as indicated below in Figure 3. Expenses classified as ‘other’ several individual categories such as medical or pharmaceutical paraphernalia, laboratory tests, and dental care. In Iran, the largest component of health spending is inpatient hospital care, followed by physician visits and medications. These patterns reflect differences in supply and demand-side factors in health financing and organization, including differences in user fees for health care services in the private and public sectors, differences in eligibility criteria for various health benefits under public or private insurance schemes, and differences in the availability and distribution of health care providers and services that meet citizens’ needs and preferences.

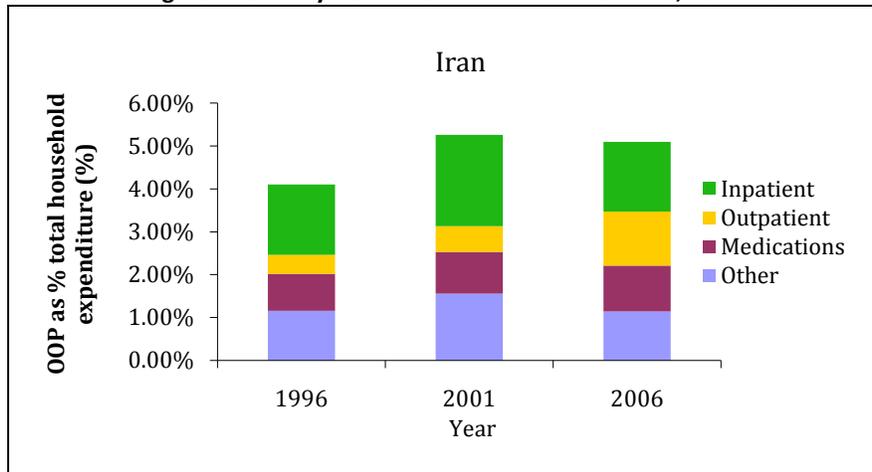
**Figure 3. OOP by health service in MENA countries**



Source: Authors' calculations using data from national surveys (see Annex).

In terms of the growth of OOP health expenditures over time, the case of Iran suggests that the rate of growth depends on the particular component of spending. Since 1996, overall expenditures in Iran have grown at an average rate of 6.6 percent every five years, as shown in Figure 4. This growth has been largely driven by the increase in expenditures for outpatient health care services, which has grown at a rate of 16.0 percent every five years. The rate of growth for overall expenditures also appears to differ spatially; over the period of 1996-2006, expenditures in rural areas grew at a rate of 7.8 percent as compared to 7.3 percent in urban areas. Differences are more apparent in patterns of spending on inpatient services. In rural areas, expenditure on these services grew at a rate of 2.4 percent between 1996 and 2001, and increased sharply to grow at a rate of 9.1 percent between 2001 and 2006. The pattern is reversed in urban areas, where the rate of growth decreased from 12 percent during 1996-2001 to -2.0 percent during 2001-2006.

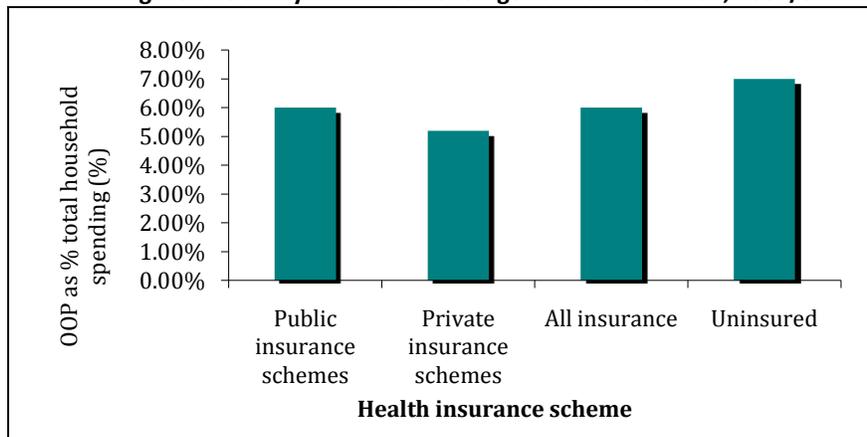
**Figure 4. OOP by health service in Iran over time, 1996-2006**



Source: Authors' calculations using data from national surveys (see Annex).

These patterns reflect spatial differences in various determinants of health care expenditure, including differences in the type of coverage provided by different social protection schemes. The level of protection offered by insurance or social protection schemes for different health care services and the amount of co-payments levied influence the way in which people utilize health services and the financial costs they face. Indeed, data from Lebanon show that household expenditures on health can vary by insurance coverage as indicated below in Figure 5. While the uninsured spend an average of 7 percent of their household disposable income on health care, households covered by private health insurances schemes spend 5.2 percent on health care. Households covered by public health insurance schemes spend 6 percent out-of-pocket on health care, indicating that there are differences in utilization patterns between households enrolled in different insurance plans. These figures also suggest that the level of financial protection afforded by private health insurance schemes may be more comprehensive than by public health insurance schemes.

**Figure 5. OOP by insurance coverage status in Lebanon, 2004/5**



Source: Authors' calculations using data from national surveys (see Annex).

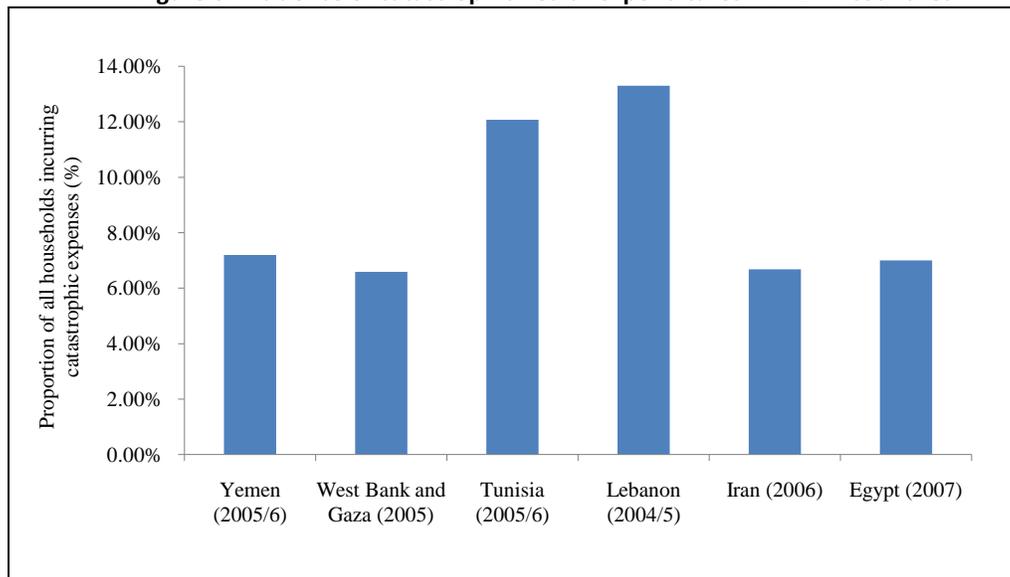
***Main messages: The level of out-of-pocket spending on health is relatively high in MENA.***

1. OOP health expenditures account for 3 to 7 percent of household spending in MENA countries, with wealthier households spending more as a proportion of total expenditure than lower-income households.
2. Urban households tend to spend more as a proportion of total expenditures than rural households.
3. Patterns suggest that those with a higher ability to pay for health services may receive better or more frequent health services than poorer counterparts.

## IV. Identifying Catastrophic Health Care Expenditures

The burden on welfare that out-of-pocket payments pose throughout countries in MENA is related to the cycle of ill health and economic hardship. Households that incur excessively high out-of-pocket payments are most vulnerable to being plunged further into this cycle. These households are typically defined as those that pay greater than an internationally-recognized threshold as a proportion of total household expenditure, which may vary between 5 percent and 25 percent of total expenditure, or 15 percent and 40 percent of non-food expenditure<sup>13</sup>. Figure 6 shows the proportion of households that incur such ‘catastrophic’ health care expenditures, ranging from 7 to 13 percent of all households in MENA countries. The incidence of catastrophic expenditures is lowest in countries such as Yemen, West Bank-Gaza, Egypt and Iran and highest in Lebanon. Generally, in countries where more than 5 percent of all households incur such catastrophic expenses, financial protection against the costs of health care may be considered insufficient or inadequate for certain services. For example, given that medications account for large proportion of household health spending in Tunisia, insufficient coverage against the costs of medications contributes to high rates of catastrophic payments.

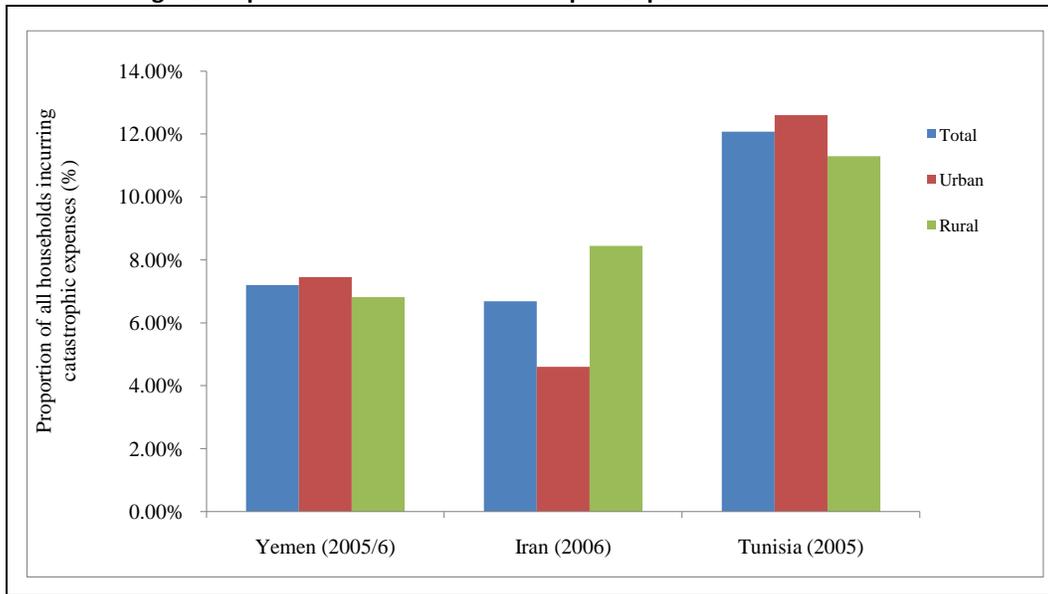
**Figure 6. Incidence of catastrophic health expenditures in MENA countries**



Source: Authors' calculations using data from national surveys (see Annex). Note: Catastrophic spending defined as having incurred at least 10% of total household expenditures.

Catastrophic payments also appear to vary depending on geographic location in MENA countries. Evidence from Yemen demonstrates that a greater proportion of urban households as compared to rural households incur catastrophic payments. The reverse is true in Iran, where nearly twice as many rural households as urban households incurred catastrophic payments in 2006, 8.4 percent vs. 4.6 percent, respectively, as shown in Figure 7 below.

**Figure 7. Spatial distribution of catastrophic expenditures in MENA countries**

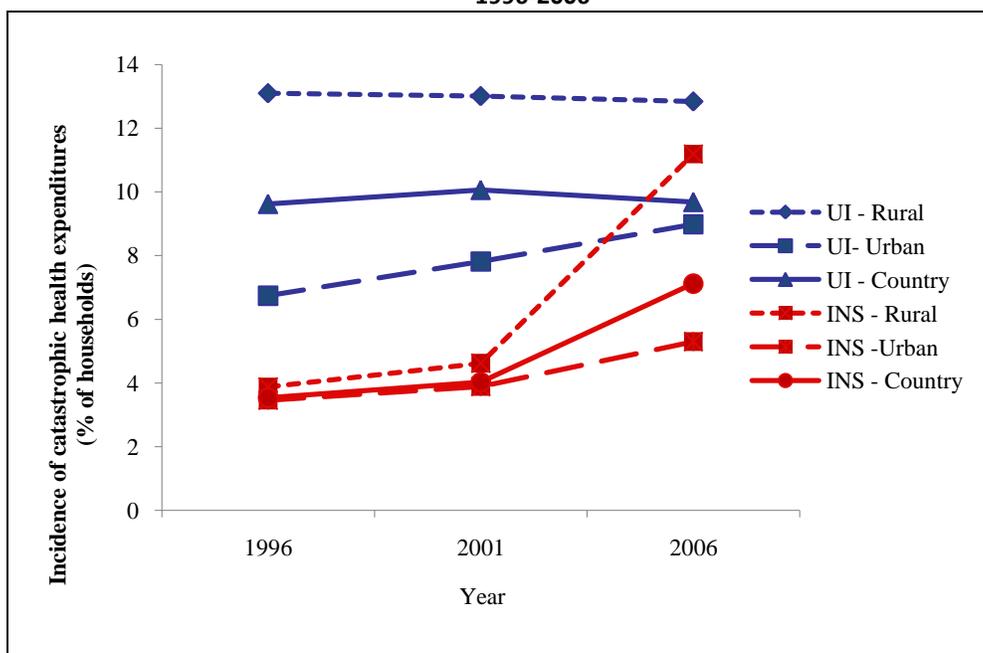


Source: Authors' calculations using data from national surveys based on methods developed by Wagstaff et al<sup>14</sup> (see Annex). Note: Catastrophic spending defined as at least 10% of all spending.

The extent to which health financing schemes protect households against catastrophic health care payments depends on the nature of the coverage and eligibility criteria, amongst other factors. Examining the case of Iran during 1996-2006, uninsured households have tended to face approximately twice the exposure to catastrophic health care payments; in 2006, approximately 7 percent of insured households reported catastrophic payments as compared to 14 percent of uninsured households as shown in Figure 8 below. Although the expansion of health insurance coverage to rural areas during the late 1990s has been associated with improved access to primary health care services, insured rural households have also reported a substantially higher rate of catastrophic payments over time, reflecting the combination of improved availability of health care services associated with user fees for households that may otherwise forgo necessary health care.

Similar patterns exist in Tunisia (Table 6), where the insured tend to report higher rates of catastrophic expenditures than the uninsured, likely attributed to a higher propensity to use more costly services associated with co-payments or those found in the private sector. Attempting to use variations in health insurance coverage to explain variations in the incidence of catastrophic health spending should be done with some degree of caution given the endogenous nature of 'insurance coverage' as an explanatory variable<sup>15 16</sup>.

**Figure 8. Spatial distribution of catastrophic expenditures by insurance status in Iran over time, 1996-2006**



Source: Authors' calculations using data from national surveys (see Annex). Note: Catastrophic spending in Iran defined as at least 25% of total household expenditure. UI: Uninsured population; INS: Insured population.

**Table 6. Catastrophic expenditures by insurance status in Tunisia, 2005**

Type of health insurance coverage	Incidence of catastrophic expenditures (%)
Social health insurance (SHI)	6.16
Complementary health insurance in addition SHI	0.85
Government-subsidized coverage	3.44
Uninsured	1.62
Total	12.07

Source: Authors' calculations using data from national surveys (see Annex). Note: Catastrophic spending defined as at least 10% of total household expenditure.

Depending on how well systems work for exempting the poorest households from having to pay fees at the point-of-use, the effect on financial burdens can vary. During 2006 and 2007, four Egyptian governorates participated in a user-fee abolition system, whereby poorer households would be identified and offered a health card to access primary health care services for free. While this scheme should have resulted in greater access to health care and lower out-of-pocket payments by households, the scheme was unable to demonstrate such an effect. The lack of such an impact has been attributed to weaknesses in the system to adequately ensure that the poorest households received the benefits afforded by the scheme.

Table 7 shows that based on catastrophic thresholds of 5 percent or 10 percent of household expenditure, the incidence of catastrophic payments slightly increased following the introduction of the user-fee abolition scheme. Based on a 10 percent

threshold, 7 percent of households faced catastrophic payments before the scheme was introduced, as compared to 7.13 percent after its introduction. The higher thresholds reveal that the scheme resulted in a marginal reduction in the incidence of catastrophic payments; using thresholds of 15 percent to 25 percent, the scheme reduced the incidence by 0.3 percent to 0.5 percent. The introduction of the scheme also appears to have marginally reduced the intensity, or overshoot, of catastrophic expenses by approximately 0.5 percent on average. Overall, the introduction of this scheme in Egypt did not substantially reduce the impact of out-of-pocket payments on household living standards as intended.

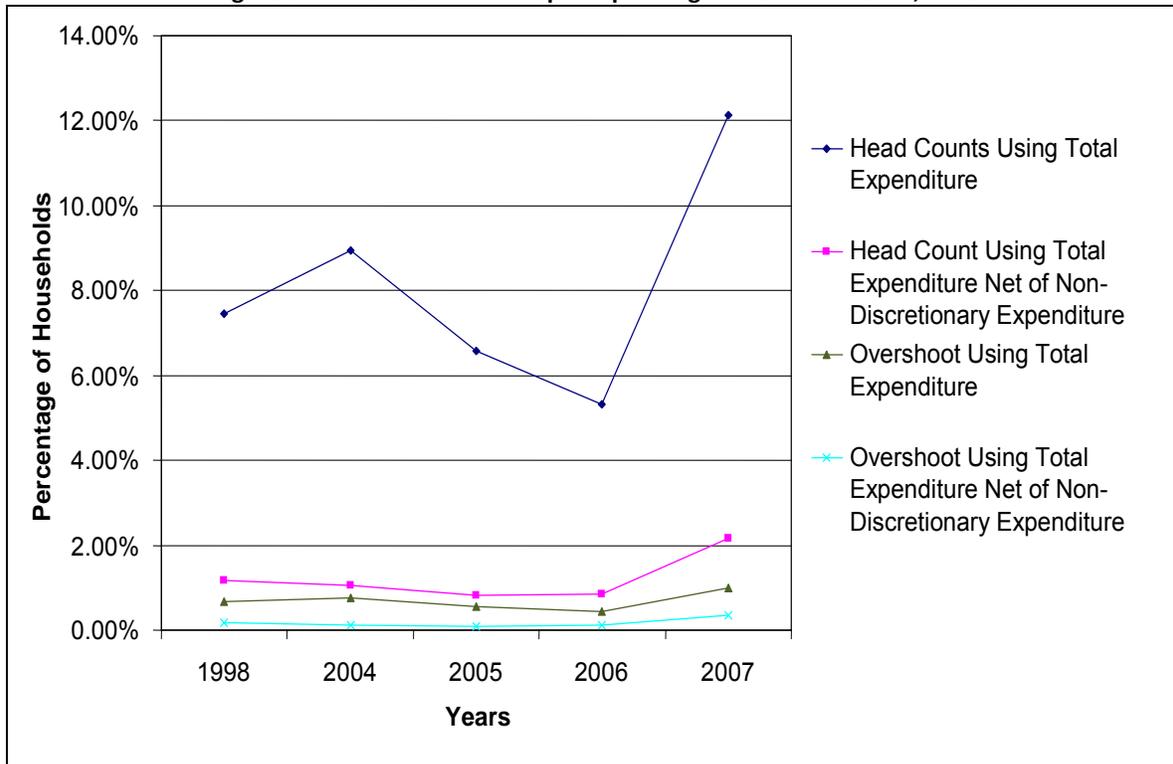
**Table 7. Incidence of catastrophic expenditures before and after User-Fee Exemption Scheme in Egypt, 2007**

<i>Program Phase</i>	<i>Thresholds: Health Care Payments as % of Household Expenditure</i>				
	<i>5%</i>	<i>10%</i>	<i>15%</i>	<i>20%</i>	<i>25%</i>
<i>Baseline</i>					
Head count (H) (% of households)	12.29	7.00	5.57	4.43	3.86
Overshoot (O) (% of threshold)	2.13	1.67	1.36	1.12	0.90
Mean positive overshoot (MPO) (%)	17.32	23.88	24.37	25.20	23.46
<i>Follow-up</i>					
Head count (H) (% of households)	12.70	7.13	5.28	4.14	3.14
Overshoot (O) (% of threshold)	1.53	1.07	0.76	0.53	0.36
Mean positive overshoot (MPO) (%)	12.08	15.00	14.37	12.80	11.34

Source: Authors' calculations using data from national surveys (see Annex). Notes: Baseline data were collected before the introduction of the user-fee exemption scheme during 2007. Follow-up data were collected in September 2007, three months after the introduction of the scheme.

Conflict-affected environments can also have a big impact on catastrophic spending. These types of environment which exist in the MENA region exacerbate two particular issues. The first issue concerns access to regular care that may mitigate against the propensity to incur sudden, often higher-than-average expenditures. The second issue concerns the weakening of existing financial protection schemes as a result of broader economic and political instability. Using the case of the West Bank and Gaza, longitudinal evidence shows that the incidence of catastrophic expenses had been decreasing over time until 2006, when these expenses increased substantially through 2007, substantially exceeding the incidence of all previous years. These trends are shown below in Figure 9.

**Figure 9. Incidence of Catastrophic Spending in West Bank-Gaza, 1998-2007**



Source: Authors' calculations using data from national surveys (see Annex).

***Main messages: Catastrophic health expenditures persist in MENA despite the existence of governmental insurance schemes.***

1. The incidence of catastrophic expenditures in MENA is relatively high compared to similar low- and middle-income countries, ranging from 6-14% of all households, despite the existence of directly provided services and health insurance coverage schemes.
2. Catastrophic expenditures tend to be more likely in urban in rural areas in Yemen, but the reverse is the case in Iran.
3. Catastrophic expenditures appear to be more prevalent in countries where there is a greater reliance on private health care services, such as in Lebanon, and where out-of-pocket payments account for a greater share of national health expenditures.

## V. The Impoverishing Effect of OOP Spending

To assess the burden of out-of-pocket payments and catastrophic expenditures, the extent to which health care payments impinge on living standards is evaluated. Most poverty measures do not typically take into account health care-related expenditures or do not explicitly show the contribution of health care payments to poverty levels<sup>17</sup>. The poverty headcount represents the percent of households that fall below the poverty line, defined in relative or absolute terms. Where data permits, the poverty headcount and depth of poverty as a percentage of the poverty line, or the normalized gap, is estimated before and after accounting for out-of-pocket payments for health care.

The poverty lines used have been chosen on the basis of the local context, representing either a relative or absolute poverty line, although other approaches by which to measure poverty exist as described elsewhere<sup>18</sup>. The relative poverty line is defined in relation to a nation's mean income per capita and was used in the case of Egypt. Absolute poverty lines are set according to international poverty lines estimated by the World Bank and were used in the cases of Lebanon, Iran, West Bank-Gaza, Yemen and Tunisia.

Amongst the broad effects of out-of-pocket health care payments, the effect on household disposable income is a particularly important consideration. Health care payments in particular may pose as a source of strain on economic resources due to the uncertainty of their timing, duration and magnitude. Households that are entitled to social protection schemes ought to be protected from either falling below the poverty line or being pushed further if already considered poor. The definition of poverty lines may vary across countries and the magnitude of the impact of health care payments will depend on which poverty lines are used. Nonetheless, Table 8 shows that health care payments in MENA tend to impact poverty levels differently across countries. Health care payments tend to increase the number of households that fall below the poverty line in West Bank and Gaza, Lebanon, Iran, Egypt, and Tunisia. The effect tends to be considerable in most of the countries, putting between 8 to 18 percent more households into poverty as a result of these households having to pay for health care themselves. The West Bank and Gaza show a particularly high increase of nearly 80 percent more households falling into poverty.

**Table 8. Effect of out-of-pocket health care payments (OOP) on poverty rates in MENA countries**

Country	Pre-payment poverty headcount (% of households)	Post-payment poverty headcount (% of households)	Absolute difference (percent difference)	Relative difference (percentage difference)
Yemen (2005/6)	20.30	21.90	1.60	7.88
Lebanon (2004/5)	27.50	31.60	4.10	14.91
West Bank and Gaza (2005)	13.70	25.05	11.35	82.85
Iran (2006)	13.64	15.44	1.80	13.20
Egypt (2007)	31.76	36.05	4.29	13.51
Tunisia (2005)	3.69	4.35	0.66	17.77

Source: Authors' calculations using data from national surveys (see Annex). Notes: Data for Egypt shown for baseline levels before introduction of user-fee exemption scheme.

The number of households pushed into poverty as a result of having to pay for health care is one dimension of the impact. Another dimension is the depth of the poverty effect, that is, the amount of expenditure by which households fall below the poverty line, adjusted to reflect the percentage of the poverty line or a normalized poverty gap. In the MENA countries surveyed, the intensity of the poverty effect varies between from an absolute increase of less than 1 percent in Tunisia and Yemen to one of nearly 9 percent in the West Bank and Gaza. These data are shown below in Table 9.

**Table 9. Effect of OOP on depth of poverty in MENA countries**

Country	Pre-payment poverty normalized gap (% of HHEXP)	Post-payment poverty normalized gap (% of HHEXP)	Absolute difference (percent difference)	Relative difference (percentage difference)
Yemen (2005/6)	5.85%	6.32%	0.47%	8.03%
Lebanon (2004/5)	7.60%	9.00%	1.40%	18.42%
West Bank and Gaza (2005)	2.20%	10.70%	8.50%	386.36%
Egypt (2007)	12.05%	16.47%	4.42%	36.68%
Tunisia (2005)	0.87%	1.01%	0.14%	15.72%

Source: Authors' calculations using data from national surveys (see Annex). Notes: Data for Egypt shown for baseline levels before introduction of user-fee exemption scheme. Notes: Data for Iran not available. HHEXP = total household expenditure.

The effects of health care payments on poverty in MENA indicate that the greater concern, with the exception of West Bank-Gaza, is not necessarily the depth of poverty, but the total number of households whose poverty status changes before and after accounting for health care payments, as the effect on the poverty headcount is more marked than that on the poverty gap. Therefore, it is the breadth, and to a less extent, the depth, of poverty that is at stake. The more and more people face economic hardship as a result of health care costs, the greater the implications for society-at-large.

Consistent with the patterns of poverty within countries, the effect of health care payments varies geographically as well in indicated below in Table 10. Using the case of Yemen, overall poverty rates are generally two-three times as high in rural areas than in urban areas, as tends to be the case throughout MENA countries. At the same time, Yemeni urban households face the effect of health care payments more intensely than their rural counterparts; the relative differences in headcount and the gap are higher amongst urban than rural households. While this may be the case in Yemen given the greater of availability of fee-based health services in urban areas, other countries may show a different pattern depending on the nature and affordability of health services in urban and rural areas. Therefore, spatial differences in the effect of health care payments should be taken into account when designing appropriate health financing schemes within a given country.

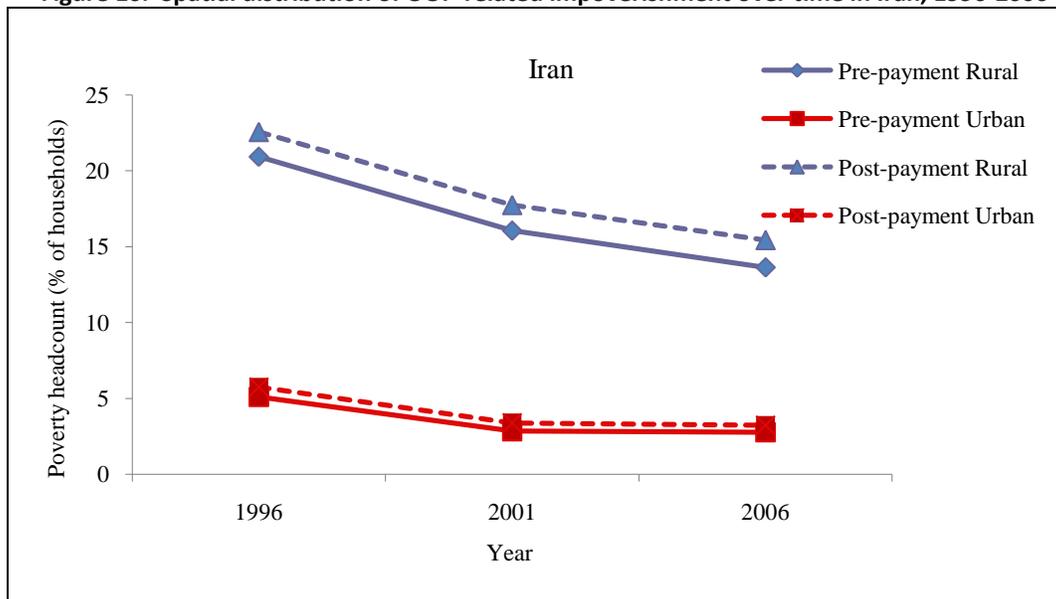
**Table 10. Spatial distribution of OOP-related impoverishment in Yemen**

Country	Poverty Headcount (%)			Poverty Gap (%)		
	Pre-payment poverty	Post-payment poverty	Relative difference	Pre-payment	Post-payment	Relative difference
Yemen (2005/6)	20.30	21.90	7.88	5.85	6.32	8.03
Urban	14.90	16.40	10.07	3.99	4.37	9.52
Rural	31.10	33.25	6.91	9.48	10.22	7.81

Source: Authors' calculations using data from national surveys (see Annex).

Furthermore, the effect of health care payments on poverty has changed in some countries over time, a result of changes in the demand, supply, and financial protection systems for health care. In the case of Iran, as shown below in Figure 10, the effect of out-of-pocket payments has somewhat widened over time in rural areas, increasing the poverty headcount by 1.6 percent in 1996 to 1.8 percent in 2006. The reverse is found in urban areas, where the net effect has decreased from 0.65 percent in 1996 to 0.47 percent in 2006. Given the observation that rural households have tended to report higher rates of catastrophic expenditures over time, these expenses have not been compensated by overall economic gains. Indeed, international evidence shows that the rate of increase in medical costs is typically higher than overall economic growth. Although poverty rates may be decreasing in MENA over time, the increasing burden of health care costs has not necessarily followed suit; future increases in the demand for health care therefore poses as a growing concern.

**Figure 10. Spatial distribution of OOP-related impoverishment over time in Iran, 1996-2006**



Source: Authors' calculations using data from national surveys (see Annex).

The example of the user-fee abolition program in Egypt also suggests that the introduction of financial coverage must be matched by comprehensive systems to ensure that beneficiaries are, indeed, protected from the costs of care sufficiently and adequately. Following the introduction of the scheme, health care payments appear to have increased the poverty headcount to a greater degree than the before the introduction of the scheme. Similarly, the increase in the poverty gap due to health care payments was greater following the introduction of the scheme as shown below in Table 11.

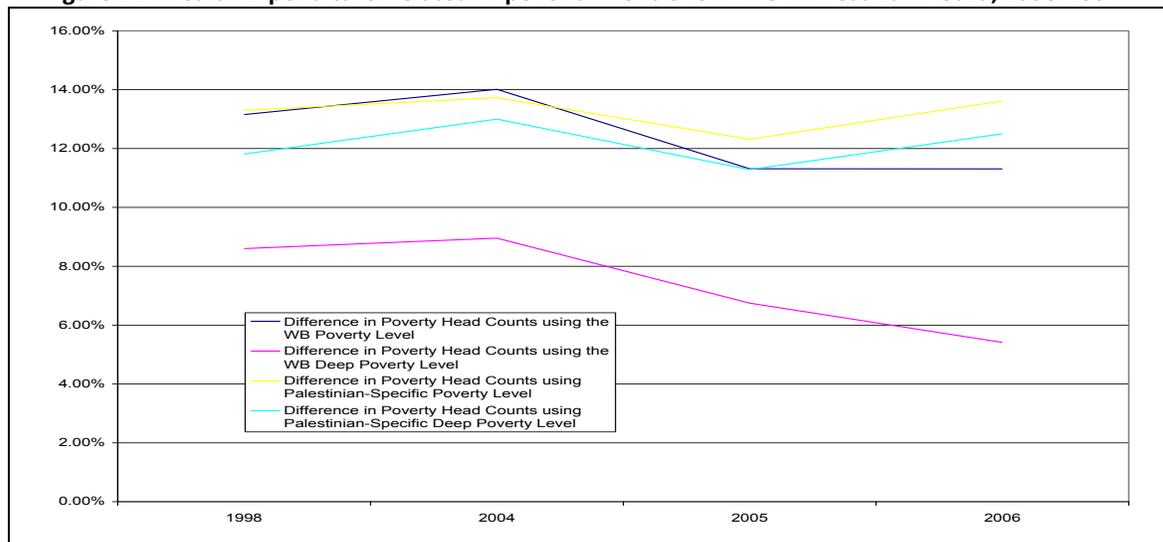
**Table 11. OOP-related impoverishment before and after user-fee exemption policy in Egypt, 2006/7**

Indicator	Pre-payment (%)	Post-payment (%)	Absolute difference (%)	Relative difference (%)
Poverty head count - Baseline	31.7	36	4.3	14
Poverty head count - Follow-up	38.4	44.5	6	16
Poverty gap – Baseline	12	16.5	4.4	36.7
Poverty gap - Follow-up	14.9	24.2	9.3	62.8

Source: Authors' calculations using data from national surveys (see Annex).

In the case of West Bank-Gaza, the impact of health care payments on poverty levels has been mixed from 1999-2006 as shown below in Figure 11. The difference in poverty head counts using Palestinian-specific poverty levels increases slightly during the time period while the same difference increases using the World Bank defined poverty level. As for trends related to 'deep poverty', again, there is an increase in the difference in poverty head counts using the Palestinian-specific poverty level while there is a decrease using the World Bank defined poverty line for deep poverty.

**Figure 11. Health Expenditure-Related Impoverishment Over Time in West Bank-Gaza, 1998-2007**



Note: Vertical axis represents poverty headcount over time as percent of households. Source: Authors' calculations using data from national surveys (see Annex).

***Main messages: Although poverty rates in MENA countries are relatively lower than several comparable countries in Asia and Latin America, the extent that poverty is attributable to healthcare payments is relatively high.***

1. Out-of-pocket health expenditures tend to increase the poverty headcount in MENA countries from between 5 percent and 14 percent, with the exception of the West Bank and Gaza where the difference was 80 percent.
2. Policies to mitigate the impoverishing effect of health care payments by exempting vulnerable populations from paying user fees have not been as effective as anticipated, based on the case of Egypt.
3. National poverty reduction strategies should more explicitly take into account the perverse effects of household financial risk, particularly for groups with a higher-than-average need for health care such as infants, mothers, and those with non-communicable chronic conditions.

## **VI. Policy Implications: Bridging the Gaps**

### ***Who Pays? Main findings***

Who pays? Households in MENA continue to foot the health care bill, despite efforts to expand financial protection in most countries, particularly those households in the lowest two wealth quintiles. Their experiences demonstrate that as a share of monthly household expenditures, OOP payments on health in the six countries account for 6 percent of total annual household expenditure on average, with Egyptian and Palestinian households spending the most on health care. The bulk of OOP payments in these countries go towards purchasing drugs, private outpatient services, and laboratory and diagnostic services. In many cases, lower-income households pay a larger share of their consumption expenditure on health care than higher-income households, but the reverse was also observed in some countries. Between 7 to 13 percent of households from five countries incur catastrophic payments, defined as 10 percent or greater of annual household expenditure.

As to the impoverishing impact of health payments, the number of households who are considered below the poverty line when accounting for OOP health payments is 23 percent higher on average than when not accounting for these expenses. Households that report having health insurance coverage tend to incur lower OOP payments than households that do not have health insurance coverage, but this not necessarily the case. Geographic setting also appears to play a role, with households in rural locations often paying a greater share of expenditures on health care than urban counterparts. Patterns of out-of-pocket payments may be influenced by nature of health financing arrangements and the access and quality of health care received at public and private facilities. Given that data is generally lacking in the MENA region on utilization patterns as well as more information pertaining to spending patterns over time, more systematic efforts should be taken to both measure and address the consequences associated with out-of-pocket payments for health care.

### ***Overview of policy responses***

These patterns of out-of-pocket spending on health care in MENA suggest that policy responses ought to focus on both demand- and supply-side issues related to why households fall into hardship when faced with illness. Their experiences imply that financial protection may be ill-devised at the point-of-use, but that other demand- and supply-side factors may also impact a household's ability to address their health care needs, such as the quality of care available at low cost and the distribution of necessary and effective services. As shown in Table 12, a number of MENA countries have managed to reduce financial barriers with seeking care to some extent as a result of three main types of policy interventions: (a) on the demand side, effective risk-pooling for households; (a) on the demand- and supply-side, appropriate incentives to use and provide cost-effective health services, such as primary care; and (c) at a central, system-level, the use of comprehensive information systems to monitor and ensure the most vulnerable receive adequate care through beneficiary registries and systematic assessment of service delivery performance indicators. These are discussed in turn.

### *Demand-side policy responses*

On the demand side, the persistent reliance on households to foot a significant proportion of health care costs appears to have negatively impacted living standards in MENA, particularly in countries in which risk-pooling measures have been inadequate and where basic health care benefits, such as preventative care, have not been guaranteed by the state. This pattern appears to be the case regardless of the main revenue-generating system, whether through social health insurance, general revenues and taxes, or a mix of financing agents. Malnutrition and increasing rates of chronic health conditions amongst poorer groups in peripheral areas and urban slums pose as increasing barriers to future social and economic attainment in lagging areas.

The nature of the disparity will often dictate the type of intervention, whether integrative, targeted, or a combination of both. Strategies that aim to improve financial protections schemes and the quality of health care provisioning at a population level may alleviate spatial and socioeconomic inequity in health outcomes to a greater extent than selective, targeted schemes such as conditional cash transfers<sup>19</sup>. Although there is evidence that conditional cash transfer programs in Honduras, Mexico, Nicaragua and Brazil have been associated with increased utilization of preventative, maternal and child health services, these development and success of these programs often depend on the wider economic, institutional and social contexts in which they operate<sup>20 21 22 23</sup>. To date, there is a lack of information on the effects of such a scheme in MENA, but may prove to be an option in the future.

In terms of risk-pooling and financial protection schemes, experience in MENA has shown that broad-based strategies that reduce the financial and administrative burden on the part of beneficiaries often yield the greatest gains in terms of improved health care access and outcomes. This effect appears to have been biggest in the case of Iran and Tunisia, where the rates of insurance coverage have increased substantially to cover over 85 percent of their populations and where the utilization of preventative health services has risen. The 2009 World Development Report highlighted that although economic growth is seldom distributed evenly within or between nations, the most successful nations also tend to instituted policies that evenly distribute basic living standards<sup>24</sup>. The level of financial protection afforded to facilitate access to health services is an integral component of such policies. These policies range from geographic targeting to broad, integrative programs aimed at reducing the level of social exclusion in health that may exist.

In MENA, particularly vulnerable populations are often lower-income, marginalized communities such as the urban slums in Cairo, refugee locales in Lebanon, Jordan, Syria and the West Bank and Gaza, mountainous villages in Yemen and Morocco, and desert communities throughout the Sahara and the Arabian Peninsula. Yet **Iran** has pursued a number of measures during the past two decades that have managed to narrow such socioeconomic and geographic inequities. Policies such as the expansion of government-subsidized health insurance, the strengthening of primary health care through local

staffing, and more regular nation-wide monitoring have contributed to expanding the use of primary health care services to reach over 90 percent of the population and health insurance coverage to reach 80 percent<sup>25 26</sup>.

The **Tunisian** experience shows that, whilst the establishment of health insurance schemes for the informal sector can help to increase enrolment rates, these policies should be linked to adequate service provision for those facilities contracted with public insurance schemes. Social health insurance schemes, operated through the National Health Insurance Fund (*Caisse Nationale d'Assurance Maladie*, or CNAM), cover approximately 66 percent of the population as of 2008. Since 1958, state-subsidized health insurance has operated in parallel to pre-existing social health insurance schemes for the formal sector. These schemes, previously known as *Régimes d'Assistance Médicale Gratuite* (AMG 1 and AMG 2, respectively)<sup>27</sup>, have been consolidated as of 2009 and have gradually succeeded in increasing the proportion of enrolled the majority of informal workers and low-income individuals, currently covering approximately 33 percent of the Tunisian population, although 10 percent of the population continue to be uninsured<sup>28</sup>. These gains have been matched by exponential increases in out-of-pocket expenditures, partially due to the shift away from public providers to private providers, and partially due to cost-sharing tariffs that exist even under state-subsidized, “free” schemes.

By the same token, targeting mechanisms may supplement broader programs, providing they are well-designed and cost-effective. A recent assessment of the **Moroccan** experience has demonstrated that a combination of highly targeted geographic and means-tested poverty alleviation schemes may be the best way forward<sup>29</sup>. Likewise, programmatic schemes such as the National Human Development Initiative, or *L'initiative nationale pour le développement humaine* (INDH), have specific components each targeting certain geographic zones, including poorer rural communes and urban slums<sup>30</sup>. In 2008, the Moroccan government also initiated a health card program called *Le Régime d'Assistance Médicale* (RAMED), in order to expand coverage of social health insurance, improve financial protection and improve utilization of primary health services for the poorest groups in a pilot region. Whether the program succeeds or whether other, supply-side measures and incentives are needed to address inadequate public primary care provision in remote, poorer areas remains to be seen.

More specifically, the success of targeting policies that seek to reduce the burden of health care costs for the most vulnerable will depend on how likely these policies can be implemented and operated at a relatively low economic and opportunity cost. In **Egypt**, the recent user fee exemption policy demonstrated modest decreases in the number of individuals facing catastrophic health care expenditures; but overall, the impoverishing effect of health care payments increased after the introducing of the policy, both in terms of the absolute number of head counts and the poverty gap. Contrary to the intended aim of the program, more than half of the interviewed households identified as poor continued to pay out-of-pocket fees at least once after the implementation of the policy. Moreover, more than half of those eligible to benefit from the scheme indicated they were not aware that such a policy existed, indicating the need to ensure awareness and understanding on

the part of citizens regarding benefits and entitlements. Although such initiatives are intended to improve welfare, they need to be part of a broader package of reforms that include addressing operating budgets and provider incentives in order to offset lost revenues attributed with exempting citizens from footing the bill.

Better implementation of social protection schemes tends to be a result of commitment and information capacity to manage these systems towards their intended aims. In the **West Bank and Gaza**, the unification of information systems from the Governmental Health Insurance bureaus resulted in a more accessible and transparent beneficiary registry, improving the identification of beneficiaries and benefits alike. Together with quality improvement standards and guideline development, these improved information technology systems were associated with an increased procurement, delivery and availability of pharmaceuticals in lagging areas; an increase of 30 percent in the utilization rates of rehabilitated facilities; and a nearly seven-fold improvement in diabetes management as indicated by the percent of diabetics reporting poor metabolic indicators over nearly five years<sup>31</sup>.

### *Supply-side policy responses*

Parallel to effective demand-side measures such as effective risk-pooling schemes, strengthening supply-side capacity and incentives are likely to alleviate inequity in financing. Indeed, the experience of China in addressing access to health services and financial payments suggests that supply-side reforms such as provider incentives and remuneration systems tend to have a greater effect on reducing the incidence of catastrophic spending, than did demand-side reforms, such as expanding health insurance alone<sup>32</sup>. Notably, where countries have prioritized investing in adequate provision and quality of basic health services such as primary and preventative care, have health outcomes increased and become more equitable, such as **Iran**. A substantial proportion of out-of-pocket payments in many MENA countries are associated with the use of outpatient and pharmaceutical services. In the case of costly services, the extent and nature of health care benefits included in the ‘basic benefits package’ covered through financing schemes will dictate the extent to which ability-to-pay plays a role. In the case of preventative and primary care, both demand- and supply-side incentives to utilize or promote such services are traditionally perceived to be low without direct governmental intervention. Disadvantaged communities that lack such services face a vicious cycle of insufficient preventative care, elevated risk of ill health, and impaired welfare due to either forgoing necessary treatment or facing catastrophic health care costs.

As such, evidence from MENA has demonstrated that improved primary care provision has helped to ameliorate disparities in health status. Beginning in the 1970s, **Iran** has prioritized public primary health care at a national level, ensuring that all communities are strengthened through training of local health workers (*behvarz*) to provide family planning and reproductive health care<sup>33</sup>. As a result, service coverage in rural areas has increased from nearly 40 to 90 percent over nearly 15 years (1985-2001). In **Egypt**, improvement in the basic benefits package covering essential maternal and child health services has increased vaccination rates, maternal nutrition and child health indicators in

poorer, rural governorates<sup>34</sup>. The Social Priorities Program Basic Health Project in **Morocco**, which targeted facility, equipment and medication supply rehabilitation and the establishment of lodging facilities for health personnel in the 14 most disadvantaged and least urbanized provinces, was associated with nearly 100 percent higher rate of medically-assisted deliveries over approximately five years (18.5 to 47 percent)<sup>35</sup>.

In contrast to Iran, the distribution of goods and services such as medications is grossly inequitable in **Yemen**, in part due to the lack of strategic planning and availability of local health care personnel. Several social safety net programs operate in Yemen, designed to provide in-kind and cash transfers to the poorest households; but similar to many social programs, these schemes do not operate nation-wide, with tribal politics often influencing the extent of central governmental involvement in social assistance. The three main public programs include the Social Welfare Fund, the Social Fund for Development, and the Public Works Program. There has been some evidence that some of these programs reach a greater share of the poorest income groups than do other programs, yet the effect of these transfers on health and health care patterns have not been well documented<sup>36</sup>. In similar low-income countries where labor markets are fragile and household disposable income is low, the state's role becomes paramount in ensuring the availability of functional primary health care facilities and goods.

Overall, social protection mechanisms should nonetheless achieve three basic functions to alleviate inequity in financing and access. These include: (a) accurate information on beneficiary welfare through national registry and information systems; (b) effective incentive systems for health care personnel to provide and citizens to utilize cost-effective health services, such as preventative and primary care; and (c) well-designed risk-pooling schemes to ensure coverage for the most vulnerable populations.

**Table 12. Summary of policy initiatives taken to alleviate barriers to health care in MENA, 1996-2006**

<b>Policy Issues</b>	<b>Policy approach</b>	<b>Country Example</b>	<b>Intervention</b>	<b>Outcomes*</b>
a) Lack of effective financial protection, particularly for vulnerable groups	Demand-side	Iran <sup>25</sup>	Expansion of free/subsidized health insurance	Increased coverage rates in both urban and rural Increased coverage rate nationally
		Tunisia <sup>27</sup>		
b) High out-of-pocket expenditures	Supply-side	Iran <sup>33</sup>	Supply-side: Comprehensive primary health care services included in basic benefits package covered by insurance; increased training and staffing of local health workers ( <i>behvarz</i> )	Increased utilization rates of reproductive health services
		Morocco <sup>35</sup>		
c) High rates of forgone care due to financial and geographic barriers	Supply-side	Egypt <sup>34</sup>	Supply-side: Free lodging in rural areas for providers; improved availability of subsidized supplies and pharmaceuticals	Increased rates of medically-assisted deliveries in rural and underserved regions
		Egypt <sup>34</sup>	Supply-side: Increased coverage of maternal and child services within basic benefits package	Increased immunization and prenatal care utilization rates in poorer, rural governorates
	System-level	West Bank and Gaza <sup>31</sup>	System-level: Increased enrolment and availability of services to beneficiaries through linkage between governmental health insurance scheme databases	Increased availability of pharmaceuticals; increased utilization rates of health services
		Iran <sup>25</sup>	System-level: Better identification of health needs through monitoring and evaluation of vital health statistics in all provinces	Increased utilization rates of PHC amongst rural regions

Sources: Governmental data and World Bank staff reports (see References). \*Note: Outcomes may be attributed to policy interventions described and exogenous factors.



## VII. Conclusions

The experience of MENA to date highlights that out-of-pocket spending for health care has increased over time and the consequences can entail economic hardship and reduced access to health services. A concerted policy approach is needed to respond to these social concerns, one that balances synergistic demand- and supply-side policies. These policy responses will take on different manifestations depending on the broader institutional and infrastructure context. Further examination is also needed to evaluate the broader effects of health financing strategies on use of different health services and long term implications for health and economic growth.

In low-income countries as well as sub-national provinces that face resource constraints at a facility and household level, shifting investment to ensuring basic, primary care benefits are sufficiently resourced remains a clear priority. In middle-income countries in which a mix of social health insurance and governmental subsidies operate such as Morocco, Tunisia and Egypt, ensuring that targeting mechanisms are well functioning and sufficient outreach and awareness programs exist for eligible beneficiaries are recommended.

In middle to upper middle-income countries such as in the Eastern Mediterranean and Iran in which social health insurance schemes widely operate, refined ‘micro-tuning’ in existing systems ought to address institutional-level issues such as weaknesses in reaching the most vulnerable populations; and administrative complexity in realizing benefits for beneficiaries and operating agencies alike. Leveraging the synergy between demand- and supply-side factors associated with effective social protection can help reduce the economic burden associated with seeking health care in the Middle East and North Africa.



## Annex: Analytic Methods

### *Data Sources*

Data were available for six MENA countries from nationally representative surveys conducted in each country. Whilst these account for a fraction of the fifteen non-Gulf Cooperation Countries in MENA, they represent the spectrum of economic levels and health financing systems. The economic levels range from low income, as represented by Yemen, to upper middle income, as represented by Lebanon. Egypt and West Bank-Gaza represent lower-middle income countries, and Lebanon, Iran and Tunisia represent middle-income countries. Likewise, governmental, general revenue-funded health systems are found in Iran, Egypt, Yemen and West Bank-Gaza; social health insurance schemes are found largely in Tunisia as well as in Lebanon, Iran, Egypt and West Bank-Gaza. Lastly, private health insurance schemes are most prominent in Lebanon relative to the other six nations. An overview of the survey data and poverty lines used for the analyses are presented in Table 13.

**Table 13. Data sources**

Country	Year	Survey	Sample size (No. of households)	Survey Type	Recall period	Poverty Line
Yemen	2005/6	Household Budget Survey	13,136	National	1 month	World Bank poverty line of \$1.08/day
Lebanon	2004/5	Multi-Purpose Survey of Households	13,000	National	1 month	National poverty line of \$4.4/day
West Bank and Gaza	1998, 2004, 2005, 2006, 2007	Palestine Consumption and Expenditure Survey (PECS)	1,440	National	1 month	World Bank poverty line of \$2.15/day
Iran	1996, 2001, 2006	Household Expenditure and Income Survey	22,000 – 31,000	National	1 month	World Bank poverty line of \$2.15/day
Egypt	2006/7	User-Fee Exemption Program, Baseline and Follow-up Survey; <i>included for purposes of impact evaluation example</i>	2,954	Four governorates (Alexandria, Manoufieh, Qana, Suez); semi-nationally representative	1 month	National poverty line of LE 118.59/day
Tunisia	2005	National Health Survey (L'enquête nationale de santé)	6,538	National	1 month	World Bank poverty line of \$2.15/day

Source: Yemen: Central Statistical Organization; Lebanon: Ministry of Social Affairs and Central Administration for Statistics; West Bank and Gaza: Palestinian Central Bureau of Statistics; Iran: Statistical Center of Iran; Egypt: Ministry of Health; Tunisia: Ministry of Public Health.

### *Analyzing the distribution of out-of-pocket payments*

Out-of-pocket payments are defined as payments made directly by the household at the point-of-use, excluding health insurance premiums and payments that are reimbursed by third parties. The amount spent on medications, outpatient health services and inpatient hospital stays are extracted and compared across the cases. Outpatient health services are defined as visits to public or private clinics where patients do not stay overnight. Inpatient hospital stays are defined as visits to hospitals where patients stay at least one night.

The methods that are employed to quantify the degree of equity in health care include descriptive and regression techniques using national household survey data. Descriptive methods include comparison of means and the ‘concentration index’ technique<sup>37</sup>. The concentration index is a measure of how equally a health variable is distributed across a population ranked by income level<sup>38 39</sup>. As a single numeric, the concentration index allows degrees of equity to be easily captured and compared, in order to determine the extent and nature of policy reform that is necessary. The concentration index represents twice the difference between the line of equality and the concentration curve for the health care variable. The index is represented on a scale ranging from -1 to +1. Values equal to zero indicate an income-neutral distribution; values less than zero indicate a pro-poor distribution; and values greater than zero indicate a pro-rich distribution. This is shown in the example below (Table 14).

**Table 14. Example of concentration index method.**

Shown below is the percentage of individuals using doctor services, by quintile, using Australian National Health Survey for 2001. ‘Conc/Hi Index’ = concentration index.

	Quintile					Total	Conc/Hi Index	t-stat
	1	2	3	4	5			
Actual use								
Any doctor, in 12 months	0.895	0.880	0.833	0.830	0.832	0.854	<b>-0.0164</b>	-6.97
A GP, in 2 weeks	0.339	0.304	0.216	0.193	0.179	0.245	<b>-0.1411</b>	-14.45
A specialist, in 2 weeks	0.079	0.068	0.057	0.055	0.065	0.065	<b>-0.0505</b>	-2.37
Any doctor, in 2 weeks	0.373	0.335	0.242	0.222	0.217	0.277	<b>-0.1233</b>	-13.7

Source: van Doorslaer et al, 2008<sup>40</sup>. Note: a positive (negative) index indicates a pro-rich (pro-poor) distribution. Index in bold typeface indicates statistically significant difference from zero at 95% confidence level.

To measure the degree of progressivity of out-of-pocket payments, the distribution of these payments along income (expenditure) quintile is then compared to the overall degree of income (expenditure) inequality. Based on methods described in O’Donnell et al, the Kakwani index is applied as one of the most widely accepted measures of expenditure progressivity. Specifically, the Kakwani index is used to test the progressivity of out-of-pocket payments in this paper, as an assessment of other sources of financing such as taxes and government subsidies was outside the scope of this paper. The Kakwani index (K.I.) is defined as the difference between the concentration index (C.I.) and the Gini coefficient (G.I.) of the ability-to-pay variable, defined as household expenditure in this analysis, where  $K.I. = C.I. - G.I.$  The value of the Kakwani index ranges from -2 to 1. A negative number indicates regressivity, where the share of out-of-

pocket payments is disproportionately higher amongst lower-income groups. A positive number indicates progressivity, where the share of out-of-pocket payments is disproportionately higher amongst higher-income groups.

The proportion of households that incur an exceptionally large amount of out-of-pocket health expenditures is evaluated, referred to as the incidence of ‘catastrophic expenditures’. The incidence of catastrophic expenditures is a measure of the extent to which health care payments impinge on living standards. The threshold for catastrophic health expenditures is typically set at a value between 5% and 25% of total household consumption expenditure; or 25% to 40% of non-food household expenditure<sup>39</sup>. For purposes of this analysis, the threshold is set at 10% of total household expenditure for most of the case studies, with the exception of Iran, where the threshold is set at 25%.

### *Assessing the poverty impact of out-of-pocket payments*

To assess the burden of out-of-pocket payments and catastrophic expenditures, the extent to which health care payments impinge on living standards is evaluated across the case studies. Most poverty measures do not typically take into account health care-related expenditures or do not explicitly show the contribution of health care payments to poverty levels<sup>41</sup>. The poverty headcount represents the percent of households that fall below the poverty line, defined in relative or absolute terms. Where data permits, the poverty headcount and depth of poverty as a percentage of the poverty line, or the normalized gap, is estimated before and after accounting for out-of-pocket payments for health care.

The poverty lines used have been chosen on the basis of the local context, representing either a relative or absolute poverty line, although other approaches by which to measure poverty exist as described elsewhere<sup>42</sup>. The relative poverty line is defined in relation to a nation’s mean income per capita and was used in the case of Egypt. Absolute poverty lines are set according to international poverty lines estimated by the World Bank and were used in the cases of Lebanon, Iran, West Bank-Gaza, Yemen and Tunisia.



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